

What Is Claimed Is:

1. A manufacturing method of a structural body,  
characterized in that

5 manufacturing a first plate and a second plate for  
abutting and welding said first plate;

10 said first plate comprising a first flange provided  
by bending a first side of said first plate, a second  
flange being orthogonal substantially to said first flange  
and provided by bending a second side of said first plate,  
and a recessed portion except for a flange between an end  
portion in a longitudinal direction of said first flange  
and an end portion in a longitudinal direction of said  
second flange;

15 said second plate comprising a third flange provided  
by bending a first side of said second plate and for  
connecting said end portion in the longitudinal direction  
of said first flange, and a raised portion protruded from a  
third side which is orthogonal substantially to said first  
20 side in a second side being parallel substantially to said  
first side and in an end portion in a longitudinal  
direction of said third flange and in a vicinity of said  
end portion;

25 abutting said end portion in the longitudinal  
direction of said first flange and said end portion of the  
longitudinal direction of said third flange;

abutting said third side to an outer side of a

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circular arc of said second flange from said first plate;  
inserting and abutting said raised portion to said  
recessed portion; and  
welding the respective abutted portions.

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2. A manufacturing method of a structural body according  
to claim 1, characterized in that

said recessed portion includes a portion of a bottom  
plate of said first plate; and

10 said raised portion includes a portion of a bottom  
plate of said second plate.

3. A manufacturing method of a structural body according  
to claim 1, characterized in that

15 said second plate has a fourth flange in which a  
second side being parallel substantially to said first side  
of said second plate is bent, an end portion in a  
longitudinal direction of said fourth flange is positioned  
in a retreat position from said third side;

20 an end portion in the longitudinal direction of said  
fourth flange is abutted to said second flange; and  
said abutted portion is welded.

4. A manufacturing method of a structural body according  
25 to claim 1, characterized in that

to said second plate a thick portion is provided  
along to said second side;

10000073-120401

an end portion in a longitudinal direction of said second side is positioned in a retreat position from said third side;

an end portion in the longitudinal direction of said thick portion is abutted to said second flange; and  
 5 said abutted portion is welded.

5. A manufacturing method of a structural body, characterized in that

10 manufacturing a first plate and a second plate for abutting and welding said first plate;

said first plate being an extruded frame member and comprising plural ribs along to an extrusion direction, a thick portion provided along to a side which is an end  
 15 portion in an orthogonal direction against said extrusion direction, a plate portion except for said rib of an end portion of said extrusion direction and said thick portion, and a first flange provided by bending said end portion of said plate portion to a side of said rib;

20 said second plate comprising a third flange provided by bending a first side;

abutting an end portion in the longitudinal direction of said first flange and an end portion in the longitudinal direction of said third flange;

25 abutting a third side of said second plate which is orthogonal substantially to said second flange to an end portion of said thick portion of said first plate; and

10000073-120401

welding the respective abutted portions.

6. A manufacturing method of a structural body according to claim 5, characterized in that

5 between said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said thick portion, manufacturing said first plate to which a recessed portion except for said first flange and said plate portion of a side of said  
10 thick portion is provided;

manufacturing said second plate having a raised portion in which an end portion in the longitudinal direction of said third flange and a vicinity of said end portion is protruded from said third side;

15 inserting and abutting said raised portion to said recessed portion; and

welding said abutted portion.

7. A manufacturing method of a structural body according to claim 6, characterized in that

said recessed portion includes a bottom plate of said plate portion of said first plate; and

said raised portion includes a portion of a bottom plate of said second plate.

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8. A manufacturing method of a structural body according to claim 5, characterized in that

10000073-120401

said second plate has a fourth flange in which a second side being parallel substantially to said first side of said second plate is bent;

an end portion in the longitudinal direction of said fourth flange is abutted to said thick portion of said first plate; and

said abutted portion is welded.

9. A manufacturing method of a structural body according to claim 5, characterized in that

said second plate is an extruded frame member and an extrusion direction of said extruded frame member is a longitudinal direction of said third flange;

a second side being parallel substantially to said first side of said second plate forms a thick portion;

an end portion in the longitudinal direction of a thick portion of said second plate is abutted to said thick portion of said first plate; and

said abutted portion is welded.

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10. A structural body, characterized in that

a first plate and a second plate are welded;

said first plate comprises a first flange provided by bending a first side of said first plate, a second flange being orthogonal substantially to said first flange and provided by bending a second side of said first plate, and a recessed portion except for a flange between an end

10000073-120401

portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

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5 said second plate comprises a third flange provided by bending a first side of said second plate and for connecting said end portion in the longitudinal direction of said first flange, and a raised portion protruded from a third side which is orthogonal substantially to said first side in a second side being parallel substantially to said first side and in an end portion in a longitudinal  
10 direction of said third flange and in a vicinity of said end portion;

15 said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said third flange are abutted;

said third side to an outer side of a circular arc of said second flange from said first plate are abutted;

said raised portion is inserted and abutted to said recessed portion; and

20 the respective abutted portions are welded.

11. A structural body according to claim 10, characterized in that

25 said recessed portion includes a portion of a bottom plate of said first plate; and

said raised portion includes a portion of a bottom plate of said second plate.

12. A structural body according to claim 10,  
characterized in that

to said second plate a fourth flange in which a  
second side being parallel substantially to said first side  
5 of said first plate is provided; and

an end portion in a longitudinal direction of said  
fourth flange is welded to said second flange of said first  
plate.

10 13. A structural body according to claim 10,  
characterized in that

to said second plate a thick portion is provided  
along to said second side; and

an end portion in the longitudinal direction of said  
15 thick portion is welded to said second flange.

14. A structural body, characterized in that  
an extruded frame member and a second plate are welded;

said extruded frame member comprises plural ribs  
20 along to an extrusion direction, a thick portion provided  
along to a side which is an end portion in an orthogonal  
direction against said extrusion direction, a plate portion  
except for said rib of an end portion in said extrusion  
direction and said thick portion, and a first flange  
25 provided by bending said end portion of said plate portion  
to a side of said rib;

said second plate comprises a third flange provided

10000073-120401

by bending a first side;

an abutted portion of an end portion in the longitudinal direction of said first flange and an end portion of the longitudinal direction of said third flange is welded; and

an abutted portion of a third side of said second plate which is orthogonal substantially to said second flange to an end portion of said thick portion of said first plate is welded.

15. A structural body according to claim 14, characterized in that

between said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said thick portion, said extruded frame member has a recessed portion except for said first flange and a side of said plate portion of said thick portion;

said second plate has a raised portion in which an end portion in the longitudinal direction of said third flange and a vicinity of said end portion is protruded from a third side;

said raised portion is inserted to said recessed portion; and

said abutted portion is welded.

10000073-120401



16. A structural body according to claim 15,  
characterized in that

said recessed portion includes a bottom plate of said  
plate portion of said extruded frame member; and

5        said raised portion includes a portion corresponding  
to a portion of said bottom plate.

17. A structural body according to claim 14,  
characterized in that

10        to said second plate a fourth flange in which a  
second side being parallel substantially to said first side  
of said first plate is provided; and

15        an end portion in a longitudinal direction of said  
fourth flange is welded to said thick portion of said first  
plate.

18. A structural body according to claim 14,  
characterized in that

20        said second plate is an extruded frame member and an  
extrusion direction of said extruded frame member is a  
longitudinal direction of said third flange;

a second side being parallel substantially to said  
first side of said second plate forms a thick portion; and

25        an end portion in the longitudinal direction of a  
thick portion of said second plate is welded to said thick  
portion of said extruded frame member.

10000073-120401

19. A car body of a railway vehicle, characterized in that

an end structure of said car body of the railway vehicle comprises a first plate, a second plate, and a  
5 third plate;

said second plate constitutes a member between an upper portion of a passenger passage and a roof of said car body, and said second plate is welded to said roof;

said first plate and said third plate are provided in  
10 a right side and a left side, and said first plate and said third plate are welded to said second plate, respectively;

said first plate and said third plate constitute a member between said passenger passage and a side face of said car body;

said first plate and said third plate are overlapped  
15 and welded on said side face of said car body and said roof;

said first plate and said third plate comprise a first flange provided by bending said plates along to said  
20 roof and said side face of said car body, a second flange provided by bending said plates along to said passenger passage, and a recessed portion except for a flange between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of  
25 said second flange;

said second plate comprises a third flange provided along to said roof and for connecting an end portion in a

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longitudinal direction of said first flange, a recessed portion protruded from a third side being orthogonal substantially to a first side in an end portion in a longitudinal direction of said third flange and in a vicinity of said end portion;

an abutted portion of said end portion in the longitudinal direction of said first flange and said end portion of the longitudinal direction of said third flange is abutted; and

an abutted portion of said third side to an outer side of a circular arc of said second flange from said first plate and an abutted portion of said raised portion to said recessed portion by inserting said raised portion is welded.

20. A car body of a railway vehicle according to claim 19, characterized in that

said recessed portion includes a portion of a bottom plate of said first plate and a portion of a bottom plate of said third plate; and

said raised portion includes a portion of a bottom plate of said second plate.

21. A car body of a railway vehicle according to claim 19, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side

10000073-120401

of said first plate is provided; and

an end portion in a longitudinal direction of said fourth flange is welded to said second flange.

- 5 22. A car body of a railway vehicle according to claim 19, characterized in that

to said second plate a thick portion is provided to said flange along to parallel substantially to a second side; and

- 10 an end portion in the longitudinal direction of said thick portion is welded to said flange.

23. A car body of a railway vehicle, characterized in that
- 15 an end structure of said car body of the railway vehicle comprises a first plate, a second plate, and a third plate;

said second plate constitutes a member between an upper portion of a passenger passage and a roof of said car body, and said second plate is welded to said roof;

- 20 said first plate and said third plate are provided in a right side and a left side, and said first plate and said third plate are welded to said second plate, respectively;

- said first plate and said third plate constitute a member between said passenger passage and a side face of
- 25 said car body;

said first plate and said third plate are overlapped and welded on said side face of said car body and said

10000073-120401

roof;

said first plate and said third plate are extruded frame members and an extrusion direction of said plates is a vertical direction of said car body;

5        said first plate and said third plate being said extruded frame members comprise plural ribs along to an extrusion direction, a thick portion provided along to a side which is an end portion in an orthogonal direction against said extrusion direction, a plate portion except  
10    for said rib in said end portion in said extrusion direction and said thick portion, and a first flange in which said end portion of said plate portion along to said roof and a side face of said car body;

      said second plate comprises a third flange provided  
15    by bending a first side;

      an abutted portion of said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said third flange is welded; and

20        an abutted portion of said third side being orthogonal substantially to said second flange and said end portion of said thick portion of said first plate is welded.

24.     A car body of a railway vehicle according to claim  
25    23, characterized in that

      between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal

10000073-120401

direction of said thick portion, said frame member has a recessed portion except for said first flange and said plate portion of a side of said thick portion;

said second plate has a raised portion which  
5 protrudes an end portion in a longitudinal direction of said third flange and a vicinity of said end portion from a third side;

said raised portion is inserted to said recessed portion; and

10 an abutted portion is welded.

25. A car body of a railway vehicle according to claim 24, characterized in that

said recessed portion includes a portion of a bottom  
15 plate of said plate portion of said extruded frame member; and

said raised portion includes a portion corresponding to a portion of a bottom plate.

20 26. A car body of a railway vehicle according to claim 23, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side of said first plate is provided; and

25 an end portion in a longitudinal direction of said fourth flange is welded to said thick portion of said extruded frame member.

10000073-120401

27. A car body of a railway vehicle according to claim 23, characterized in that

said second plate is an extruded frame member and an extrusion direction of said extruded frame member is a longitudinal direction of said third flange;

a second side being parallel substantially to said first side of said second plate forms a thick portion; and

an end portion in the longitudinal direction of a thick portion of said second plate is welded to said thick portion of said extruded frame member.

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